

A. Title of Research Task

Data Analysis and Archival

B. Investigators and Institutions

Edwin F. Danielsen (RET), NASA/Ames Research Center
Leonhard Pfister, NASA/Ames Research Center
R. Stephen Hippskind, NASA/Ames Research Center
Steven E. Gaines, Sterling Software

C. Abstract of Research Objectives

The purpose of this task is the acquisition, distribution, archival, and analysis of data collected during and in support of UARP field experiments.

D. Summary of Progress and Results

Meteorological and U2 data from the 1984 Stratosphere-Troposphere Exchange Project (STEP) has been analyzed to determine characteristics of internal atmospheric waves.

CDROMs containing data from the 1987 STEP, 1987 Airborne Antarctic Ozone Experiment (AAOE), and 1989 Airborne Arctic Stratospheric Expedition (AASE) have been produced for archival and distribution of those data sets. The AASE CDROM contains preliminary data and a final release is planned for February 1990.

Comparisons of data from the NASA ER-2 Meteorological Measurement System (MMS) with radar tracking and radiosonde data show good agreement. The results will be published as soon as some recently discovered (small) calibration corrections to the MMS data are made and the data reanalyzed.

Planning for a Meteorological Support Facility continues. We are investigating existing and proposed hardware and software to receive, manipulate, and display satellite imagery and standard meteorological analyses, forecasts, and radiosonde data.

E. Publications

Danielsen, E.F., R.S. Hippskind, and S.E. Gaines, 1989: Irreversible Transport in the Stratosphere by Internal Waves of Short Vertical Wavelength. Accepted for publication in J. Geophys. Res.

Chan, K.R., S.G. Scott, S.W. Bowen, S.E. Gaines, and E.F. Danielsen, 1989: Horizontal Wind Fluctuations in the Stratosphere During Large Scale Cyclogenesis. To be submitted to J. Geophys. Res.